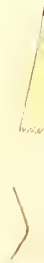


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August 1937

United States Department of Agriculture  
Bureau of Animal Industry  
Animal Husbandry Division

★ JAN 16 1938  
U. S. Department of Agriculture

A METHOD OF ESTIMATING THE WEIGHTS OF BEEF AND DUAL-  
PURPOSE CATTLE FROM HEART-GIRTH MEASUREMENTS.

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The use of heart-girth measurements in the estimation of weights of cattle is an old idea. It has been reported that a Vermont farmer used a chain in buying cattle about 40 years ago. Danish dairymen have used this method for a number of years with apparent success. More recently, the Bureau of Dairy Industry has published a table showing the weights of dairy cows in relation to heart-girth measurements. 1/

It was found that the dairy table could not be used satisfactorily in estimating weights of beef and dual-purpose cattle. In the latter-mentioned types of cattle the estimated weight was heavier than actual scale weight and the error was greater with beef cattle than with the dual-purpose cattle. The dairy table could be used, however, for exceptionally thin animals.

In estimating the weights of beef and dual-purpose cattle there are several factors to be considered so that an accurate estimate can be made. The condition of fleshing, the proportional length of body, and the relative thickness through the heart will affect the estimate. The fat animal is larger around the heart for the same weight than the thin animal or the fat animal weighs less than the thin animal for the same girth. Corrections can be made for degree of fleshing. Animals with exceptionally long bodies weigh more in proportion to heart-girth measurements than do shorter-bodied animals. Likewise, an animal with an abnormally restricted heart girth weighs more than one would expect from its heart-girth measurement.

Method of Obtaining Measurement.

To obtain a reasonably accurate measurement, the animal should be placed squarely on all four feet, with its head in the normal upright position. A steel or cloth tape, three-eighths or one-half inches wide, should be used to take the measurement. The tape should be placed around the animal at the point of smallest circumference just back of the fore legs. The tape should be pulled snugly about the animal, tight enough to make the hair lie down but not tight enough to indent the flesh. It is better to take several measurements and use the average as the true measurement. From this measurement, the approximate weight of the animal can be obtained from tables 1 or 2 according to breeding and type.

1/ Estimating the weights of dairy cows from heart-girth measurements.  
Kendrick, J. F. and Parker, J. B. Bur. Dairy Ind. Mimeograph 695.

### Estimating the Weights of Beef Cattle.

In table 1 are shown the average weights of animals grading Good, for each size of heart girth. After the animal has been measured as explained above, the estimated weight of the animal is shown in the table. Corrections for degree of fatness may be made by subtracting about 5 percent for each full slaughter grade that the animal scores above Good and adding about 5 percent of the estimated weight for each full grade below Good. For example, a Good grade steer measures 72 inches in heart girth. According to the table he should weigh about 977 pounds. If that steer were fat enough to grade Choice instead of Good, his estimated weight would be  $977 - 49$  pounds (0.05 times 977 equals 49), or 928 pounds.

If, however, the steer were only Medium in grade instead of Good, his weight would be 977 pounds plus 49 pounds, or 1,026 pounds. This latter weight is about the weight shown for the dual-purpose cattle which grade about Medium as slaughter cattle. Common steers may be estimated with the use of the dairy table or by adding 10 percent of the estimated weight of a Good steer. In the case above, the estimated weight would be 977 plus 98 or 1,075, while the dairy table shows for this measurement 1,069 pounds.

### Estimation of Weights of Dual-Purpose Cattle.

In table 2 are shown the average weights of dual-purpose cattle for each half inch of heart girth. After the animal has been measured as explained above, its estimated weight can be found in this table. The table is accurate for dual-purpose animals of medium degree of flesh. If the animal is above medium in flesh subtract 5 percent for fat animals and 10 percent of the estimated weight for very fat animals. If the animal is below the breed average add 5 percent for slightly thin animals and 10 percent for thin animals. It is important to remember that the fatter the animal the less that animal weighs for a given heart girth. In cases of excessive fatness, the beef-cattle table will give the best estimate of the true weight.

The estimation of weights of feeder steers can best be made on the dual-purpose table rather than the beef table unless the steers are Fancy or Choice grade feeders. It is suggested that for most of the feeders the dual-purpose table be used and that this table will give quite accurate estimates of feeder weights.

For groups of steers, the following tables will give as close to the average weight as can be obtained without the use of scales. As explained above, corrections have to be made for condition of fleshing.

Although not absolute, the above method is practical for the average livestock feeder or breeder where livestock scales are not available. It also offers to the extension man an opportunity of determining the weights of animals in pasture or in feeding or breeding demonstrations where no means of weighing the animals are available, but where they may be run into a chute or be tied to a post.

TABLE 1.

Approximate Weights of Beef Cattle of Good Grade For a Given Heart-Girth-Measurement.

Heart girth, inches	Weight in pounds	Heart girth, inches	Weight in pounds	Heart girth, inches	Weight in pounds
30	78	50	372	70	910
30 $\frac{1}{2}$	82	50 $\frac{1}{2}$	382	70 $\frac{1}{2}$	926
31	87	51	393	71	942
31 $\frac{1}{2}$	91	51 $\frac{1}{2}$	404	71 $\frac{1}{2}$	959
32	96	52	415	72	977
32 $\frac{1}{2}$	101	52 $\frac{1}{2}$	426	72 $\frac{1}{2}$	994
33	106	53	437	73	1,011
33 $\frac{1}{2}$	112	53 $\frac{1}{2}$	449	73 $\frac{1}{2}$	1,029
34	118	54	461	74	1,047
34 $\frac{1}{2}$	123	54 $\frac{1}{2}$	472	74 $\frac{1}{2}$	1,065
35	129	55	484	75	1,083
35 $\frac{1}{2}$	135	55 $\frac{1}{2}$	496	75 $\frac{1}{2}$	1,100
36	141	56	508	76	1,117
36 $\frac{1}{2}$	147	56 $\frac{1}{2}$	520	76 $\frac{1}{2}$	1,135
37	153	57	533	77	1,154
37 $\frac{1}{2}$	159	57 $\frac{1}{2}$	545	77 $\frac{1}{2}$	1,173
38	166	58	558	78	1,192
38 $\frac{1}{2}$	173	58 $\frac{1}{2}$	571	78 $\frac{1}{2}$	1,211
39	181	59	585	79	1,230
39 $\frac{1}{2}$	188	59 $\frac{1}{2}$	598	79 $\frac{1}{2}$	1,249
40	195	60	611	80	1,269
40 $\frac{1}{2}$	202	60 $\frac{1}{2}$	624	80 $\frac{1}{2}$	1,288
41	210	61	637	81	1,308
41 $\frac{1}{2}$	218	61 $\frac{1}{2}$	651	81 $\frac{1}{2}$	1,328
42	226	62	665	82	1,348
42 $\frac{1}{2}$	234	62 $\frac{1}{2}$	679	82 $\frac{1}{2}$	1,368
43	242	63	693	83	1,388
43 $\frac{1}{2}$	250	63 $\frac{1}{2}$	708	83 $\frac{1}{2}$	1,409
44	259	64	723	84	1,430
44 $\frac{1}{2}$	267	64 $\frac{1}{2}$	738	84 $\frac{1}{2}$	1,451
45	276	65	753	85	1,472
45 $\frac{1}{2}$	285	65 $\frac{1}{2}$	768	85 $\frac{1}{2}$	1,493
46	294	66	783	86	1,514
46 $\frac{1}{2}$	303	66 $\frac{1}{2}$	798	86 $\frac{1}{2}$	1,535
47	313	67	814	87	1,557
47 $\frac{1}{2}$	322	67 $\frac{1}{2}$	829	87 $\frac{1}{2}$	1,578
48	332	68	845	88	1,600
48 $\frac{1}{2}$	342	68 $\frac{1}{2}$	861	88 $\frac{1}{2}$	1,622
49	352	69	877	89	1,644
49 $\frac{1}{2}$	362	69 $\frac{1}{2}$	893	89 $\frac{1}{2}$	1,667

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TABLE 2.

Approximate Weights of Dual-Purpose Cattle of Medium Flesh for a Given Heart  
Girth Measurement.

Heart girth, inches	Weight in pounds	Heart girth, inches	Weight in pounds	Heart girth, inches	Weight in pounds
30	91	50	390	70	975
30½	95	50½	401	70½	993
31	99	51	412	71	1,011
31½	103	51½	424	71½	1,030
32	108	52	436	72	1,049
32½	113	52½	448	72½	1,068
33	118	53	460	73	1,087
33½	123	53½	472	73½	1,107
34	128	54	484	74	1,127
34½	133	54½	496	74½	1,147
35	139	55	509	75	1,167
35½	145	55½	522	75½	1,186
36	151	56	535	76	1,205
36½	157	56½	548	76½	1,226
37	163	57	562	77	1,247
37½	169	57½	575	77½	1,267
38	176	58	589	78	1,288
38½	183	58½	603	78½	1,310
39	190	59	618	79	1,332
39½	197	59½	632	79½	1,353
40	205	60	647	80	1,374
40½	212	60½	661	80½	1,396
41	220	61	676	81	1,418
41½	228	61½	691	81½	1,440
42	236	62	707	82	1,463
42½	244	62½	722	82½	1,485
43	253	63	737	83	1,508
43½	262	63½	753	83½	1,531
44	271	64	770	84	1,555
44½	279	64½	786	84½	1,578
45	288	65	802	85	1,601
45½	297	65½	818	85½	1,624
46	307	66	834	86	1,648
46½	317	66½	850	86½	1,672
47	327	67	869	87	1,697
47½	337	67½	886	87½	1,721
48	347	68	903	88	1,745
48½	358	68½	921	88½	1,770
49	369	69	939	89	1,796
49½	379	69½	957	89½	1,821